

**KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS**  
**DEPARTMENT OF MATHEMATICS AND STATISTICS**  
**MATH 102 - QUIZ 2**

Name:

Student ID #:

**Question 1.** Identify and graph the quadratic equation  $4x^2 + y + 9z^2 = 0$ .

**Question 2.** For the lines  $L_1$  and  $L_2$  given by their parametric equations in space:

$$L_1 : x = 4 - t, \quad y = 3 + 2t, \quad z = -5 + 3t \quad \text{and} \quad L_2 : x = 2t - 2, \quad y = -5 + 6t, \quad z = 1,$$

answer the following questions:

- (1) Determine the intersection of  $L_1$  and  $L_2$ .
- (2) Find an equation of the plane that contains the lines  $L_1$  and  $L_2$ .

**Your Solution.**